

Scholar Results 1 - 10 of about 32 for combinatorial auction integer program "column generation ". (0.06**Combinatorial auctions: a survey**S De Vries, RV Vohra - Cited by 142 - Web Search... it the **combinatorial auction** prob- lem (CAP). (We assume that the auctioneer is a seller and bidders are buyers.) CAP can be formulated as an **integer program**. ...INFORMS Journal on Computing, INFORMS Institute for Operations Research and the Management ..., 2003 - extenza-eps.com - hss.caltech.edu - iew3.technion.ac.il - gdit.iit.net - all 29 versions »**[ps] Column Generation and the Airline Crew Pairing Problem**R Anbil, JJ Forrest, WR Pulleyblank - View as HTML - Cited by 25 - Web Search... on seniority, sometimes by an **auction** process ... convergence rate issues and **column generation** integrated into ... bound for solving the overall mixed **integer program**. ...Proceedings of the International Congress of Mathematicians ... - emis.ams.org - rattler.cameron.edu - kurims.kyoto-u.ac.jp - emis.dsd.sztaki.hu - all 41 versions »**An iterative online auction for airline seats**M Eso - View as HTML - Cited by 5 - Web Search... that this is a multi-unit **combinatorial auction** where the ... can be used to solve the **Integer Program** to optimality ... set of flights offered for **auction** is extended ...IBM Research Center, 2001 - research.ibm.com - research.ibm.com**Combinatorial and Quantity-Discount Procurement Auctions Benefit Mars, Incorporated and Its ...**G Hohner, J Rich, E Ng, G Reid, AJ Davenport, JR ... - Cited by 8 - Web Search... For **combinatorial auctions**, the winning prices are pro- vided ... winning bids in some round of the auction. ... the per- formance of the **integer-programming solvers** ...Interfaces, INFORMS Institute for Operations Research and the Management ..., 2003 - extenza-eps.com - solab.kaist.ac.kr - bilkent.edu.tr - portal.acm.org - all 7 versions »**Mathematical Challenges of Combinatorial Auction Design**J Case - View as HTML - Cited by 1 - Web Search... s bidding software SBID, likewise based on **integer programming**, is said ... **Combinatorial auctions** seem likely to occupy the attention of **auction theorists** for ...SIAM News, 2000 - siam.org - matc.siam.org - siam.org - gateway.siam.org - all 5 versions »**[ps] Combinatorial Auctions: A Brief Survey (draft)**S de Vries, R Vohra - View as HTML - Web Search... **Combinatorial Auction Problem** (CAP). This paper is devoted to summarizing what is known about this issue. The problem can be formulated as an **Integer program**. ...

Iri.fr

CABOB: A Fast Optimal Algorithm for Winner Determination in Combinatorial AuctionsT Sandholm, S Suri, A Gilpin, D Levine, I ... - View as HTML - Web Search... following table gives the unique optimal values for each of the decision variables for both the **combinatorial auction** (that is, the **integer program** (IP)) and ...Management Science, to appear, 2004 - www-2.cs.cmu.edu - www-2.cs.cmu.edu**In this issue½**C PRACTICE, T Notes - View as HTML - Web Search... problem as a mixed **integer program** and develop ... first- price or second-price **auction**

A BRANCH-AND-PRICE ALGORITHM AND NEW TEST PROBLEMS FOR SPECTRUM AUCTIONS

O Gunluk, L Ladanyi, S de Vries - [View as HTML](#) - [Cited by 2](#) - [Web Search](#)

... One very important aspect of a good integer program- ... To provide some intuition, we next consider a small **combinatorial auction** that has a single round ...

Management Science, to appear, 2004 - optimization-online.org - iwm.uni-bremen.de - iwm.uni-bremen.de - optimization-online.org

Auctions-the Big Winner Among Trading Mechanisms for the Internet Economy

R Mueller, U Maastricht - [Cited by 3](#) - [Web Search](#)

... round columns to the integer linear programming ... added to the linear program, can improve ... In a multi-round **combinatorial auction**, column generation means that ...

www-edocs.unimaas.nl - merit.unimaas.nl - infonomics.nl - ideas.repec.org

Goooogle ►

Result Page: [1](#) [2](#) [3](#) [4](#) [Next](#)

[Google Home](#) - [About Google](#)

©2005 Google

Scholar Results 11 - 20 of about 32 for combinatorial auction integer program "column generation ". (0.0

Generalized Knapsack Solvers for Multi-Unit Combinatorial Auctions: Analysis and Application to ...

T Kelly - [View as HTML](#) - [Web Search](#)

... much of the flexibility and generality of integer programming ... bids KP (MCKP) M

S S "combinatorial weighted set ... 27] XOR bids [37] Table 1. Auction types and ...

ai.eecs.umich.edu - [hpl.hp.com](#) - [www-csag.ucsd.edu](#) - [ana.lcs.mit.edu](#) - [all 8 versions »](#)

Chapter 14: Optimal Winner Determination Algorithms

T Sandholm - [View as HTML](#) - [Web Search](#)

... $j \in [0,1]$ yields a linear program (LP) and ... search, a common search strategy in the integer programming ... The CABOB (Combinatorial Auction Branch on Bids) (Sand ...

[www-2.cs.cmu.edu](#)

IBM Research Report

E Ladanyi, J Lee, R Lougee-Heimer - [View as HTML](#) - [Web Search](#)

... 11 Page 14. associate dual variables $\pi \in \mathbb{R}^m$ with the demand constraints, and our

column-generation subproblem is max m ... 2.3 Solving the integer program ...

[domino.watson.ibm.com](#)

Formulations and Reformulations in Integer Programming

M Trick - [View as HTML](#) - [Web Search](#)

... variety of difficult combinatorial optimization problems ... scheduling, combinato-

rial auction winner determination ... refor-

mulation rules integer programmers have ...

[mat.gsia.cmu.edu](#)

IBM Research Report

LS Curves - [View as HTML](#) - [Web Search](#)

... truly combinatorial in nature since synergies or substitutability ... negotiation at

which the auction takes place ... be formulated as an Integer Program as follows: ...

[research.ibm.com](#) - [research.ibm.com](#) - [researchweb.watson.ibm.com](#)

Scheduling and combinatorial auctions: Lagrangean relaxation-based bounds for the WJISP

T Elendner, T Elendner - [View as HTML](#) - [Cited by 2](#) - [Web Search](#)

... the winner determination of the presented combinatorial auction. ... an instance generator

for general combinatorial auctions which ... the data to be integer-valued ...

Manuskripte aus den Instituten fur Betriebswirtschaftslehre, ..., 2003 - [halfrunt.bwl.uni-kiel.de](#)

PSI Optimal Winner Determination Algorithms for Combinatorial Auctions and Generalizations

T Sandholm - [View as HTML](#) - [Web Search](#)

... The fastest general-purpose mixed integer program solvers, CPLEX and XPress-MP ... distinct numbers, as is the case in combinatorial auction winner determination. ...

[cs.cmu.edu](#) - [cs.cmu.edu](#) - [www-2.cs.cmu.edu](#)

Voss, Stefan; Martello, Silvano; Osman, Ibrahim H.; and Roucairol, Catherine, eds. 1999,

B Lev - [Web Search](#)

... of the book is on combinatorial—but also ... programming and Benders decomposition, the auction algorithm for ... courses, such as networks and integer programming ...

INTERFACES, 2000 - [extenza-eps.com](#) - [extenza-eps.com](#) - [pubsonline.informs.org](#)

Auction Based Mechanism for Electronic Procurement

TS Chandrashekhar, Y Narahari, Sri Rosa, D Kulkarni, ... - [View as HTML](#) - [Web Search](#)

... LP Linear Program IP Integer Program MIP Mixed Integer Program MILP Mixed Integer

Linear Program GP Goal Programming CA Combinatorial Auction GVA Generalized ...

lcm.csa.iisc.ernet.in - lcm.csa.iisc.ernet.in

Assessorato Turismo, Sport, Commercio e Trasporti

A al Turismo, MS Resort - [View as HTML](#) - [Web Search](#)

... 7 AIROWinter 2003 Program ... When items in a bid are all different we call it a Single Unit Combinatorial Auction (SUCA), while when a bid may specify a number of ...

beopt.eu.org

◀ Goooogle ▶

Result Page: [Previous](#) [1](#) [2](#) [3](#) [4](#) [Next](#)

[Google Home](#) - [About Google](#)

©2005 Google

Scholar Results 21 - 30 of about 32 for combinatorial auction integer program "column generation ". (0.0**Algorithms for Piecewise Linear Knapsack Problems with Applications in Electronic Commerce**S Kameswaran - [View as HTML](#) - Cited by 1 - [Web Search](#)... intensively studied NP-hard **combinatorial optimization** problems. ... Y. Narahari: Innovative auction mechanisms for ... Knapsack Problem IP Integer Programming (problem ...Ph. D. dissertation, Department of Computer Science and ... - [people.csa.iisc.ernet.in](#) - [people.csa.iisc.ernet.in](#)**Adaptive labeling algorithms for the dynamic assignment problem**WB Powell, W Snow, RK Cheung, C Bay, HK Kowloon - [Cited by 10](#) - [Web Search](#)... to each other and to an optimal solution based on a **column- generation** technique. ...First, the problem is an **integer program** that can contain a large number of ...Transportation Science, INFORMS Institute for Operations Research and the Management ... , 2000 - extenza-eps.com - [castlelab.princeton.edu](#) - [dx.doi.org](#) - [portal.acm.org](#) - all 7 versions »**Abstracts of Plenary Talks**MAH Dempster, MC Ferris - [View as HTML](#) - [Web Search](#)... as a large-scale linear **program** with a ... the branch & price approach to **Integer**Programming (IP ... algorithms for a variety of **combinatorial optimization** problems ...[apmod.org.uk](#)**Parallel branch, cut, and price for large-scale discrete optimization**TK Ralphs, L Ladanyi, MJ Saltzman - [Cited by 7](#) - [Web Search](#)... **Program**., Ser ... as VLSI routing, theorem proving, game theory, **combinatorial optimization**, and ... particularly important for our study of mixed **integer** programs (see ...Mathematical Programming, 2003 - [springerlink.com](#) - [lehigh.edu](#) - [lehigh.edu](#)**MO Opening Session**P Toth, B Lev, L Thomas, M Trick, J Gibb, G Savard - [View as HTML](#) - [Web Search](#)... over to other problem with **combinatorial** constraints. ... in a single round sealed-bid combinational **auction**. ... problem, we constructed an **integer** linear programming ...[som.umd.umich.edu](#)**Public transit**G Desaulniers, MD Hickman - [View as HTML](#) - [Library Search](#) - [Web Search](#)... Also, a non-linear **program** is formulated for re-optimization of frequencies ... In this procedure, a **column generation** technique is used to avoid re- evaluating ...[gerad.ca](#) - [gerad.ca](#)**Transportation on demand**JF Cordeau, G Laporte, JY Potvin, MWP Savelsbergh - [View as HTML](#) - [Library Search](#) - [Web Search](#)... i. The VRPPDTW can be formulated as the following mixed-**integer program**: ... a set-partitioning formulation of the problem and an exact **column generation** algorithm ...[isy.e.gatech.edu](#) - [isy.e.gatech.edu](#)**[PS] The Workshop for Cooperative Control and Optimization**P Pardalos - [View as HTML](#) - [Web Search](#)... to recombine the results via an **auction**. ... of intensive computational experiments in **combinatorial optimization** and ... into a binary **integer** programming problem ...[ise.ufl.edu](#)

The Workshop for Cooperative Control and Optimization

JWR Union, P Pardalos - [View as HTML](#) - [Web Search](#)

... the coordinator to recombine the results via an auction. ... computational experiments

in combinatorial optimization and ... into a binary integer programming problem ...

ise.ufl.edu

A survey of optimization models for long-haul freight transportation

T Crainic - [View as HTML](#) - Cited by 3 - [Library Search](#) - [Web Search](#)

Page 1. A Survey of Optimization Models for Long-Haul Freight Transportation

Teodor Gabriel Crainic Département des sciences administratives ...

Publication du CRT, 1998 - crt.umontreal.ca - [isye.gatech.edu](#) - crt.umontreal.ca - [all 4 versions »](#)

◀ Goooogle ▶

Result Page: [Previous](#) 1 [2](#) [3](#) [4](#) [Next](#)

[Google Home](#) - [About Google](#)

©2005 Google

Scholar Results 31 - 32 of 32 for combinatorial auction integer program "column generation ". (0.02 seco**[PS] Heterogenous Scheduling and Rostering**M Aronsson, P Holmberg, P Kreuger, S Lindblom - [View as HTML](#) - [Web Search](#)... Example: Linear program Maximize $c_1 x_1 + \dots + c_n x_n$ where $a_{11} x_1 + \dots + a_{1n} x_n$ $b_1 \dots a_m x_1 \dots x_n$ LP (linear progr.) IP (integer progr.) CP (constraint progr ...

it.kth.se - imit.kth.se - sics.se

Mathematisches Forschungsinstitut OberwolfachRE Bixby, D Simchi-Levi - [View as HTML](#) - [Web Search](#)... Handbook of Discrete and Combinatorial Mathematics" Rosen ... processes and pricing and
auction models that ... and scope of mixed integer programming applications ...

mfo.de

A stylized logo where the word "Google" is written in a lowercase sans-serif font, with each letter having a horizontal arrow pointing to its left.Result Page: [Previous](#) [1](#) [2](#) [3](#) [4](#)

Scholar Results 1 - 10 of about 32 for combinatorial auction integer program "column generation". (0.06

Combinatorial auctions: a survey

S De Vries, RV Vohra - Cited by 142 - Web Search

... it the **combinatorial auction** prob- lem (CAP). (We assume that the auctioneer is a seller and bidders are buyers.) CAP can be formulated as an **integer program**. ...

INFORMS Journal on Computing, INFORMS Institute for Operations Research and the Management ..., 2003 - extenza-eps.com - hss.caltech.edu - iew3.technion.ac.il - gdit.iit.net - all 29 versions »

[PS] Column Generation and the Airline Crew Pairing Problem

R Anbil, JJ Forrest, WR Pulleyblank - View as HTML - Cited by 25 - Web Search

... on seniority, sometimes by an auction process ... convergence rate issues and **column generation** integrated into ... bound for solving the overall mixed **integer program**. ...

Proceedings of the International Congress of Mathematicians ... - emis.ams.org - rattler.cameron.edu - kurims.kyoto-u.ac.jp - emis.dsd.sztaki.hu - all 41 versions »

An iterative online auction for airline seats

M Eso - View as HTML - Cited by 5 - Web Search

... that this is a multi-unit **combinatorial auction** where the ... can be used to solve the **Integer Program** to optimality ... set of flights offered for **auction** is extended ...

IBM Research Center, 2001 - research.ibm.com - research.ibm.com

Combinatorial and Quantity-Discount Procurement Auctions Benefit Mars, Incorporated and Its ...

G Hohner, J Rich, E Ng, G Reid, AJ Davenport, JR ... - Cited by 8 - Web Search

... For **combinatorial auctions**, the winning prices are pro- vided ... winning bids in some round of the auction. ... the per- formance of the **integer-programming solvers** ...

Interfaces, INFORMS Institute for Operations Research and the Management ..., 2003 - extenza-eps.com - solab.kaist.ac.kr - bilkent.edu.tr - portal.acm.org - all 7 versions »



Mathematical Challenges of Combinatorial Auction Design

J Case - View as HTML - Cited by 1 - Web Search

... s bidding software SBID, likewise based on **integer programming**, is said ... **Combinatorial auctions** seem likely to occupy the attention of **auction theorists** for ...

SIAM News, 2000 - siam.org - matc.siam.org - siam.org - gateway.siam.org - all 5 versions »

[PS] Combinatorial Auctions: A Brief Survey (draft)

S de Vries, R Vohra - View as HTML - Web Search

... **Combinatorial Auction Problem** (CAP). This paper is devoted to summarizing what is known about this issue. The problem can be formulated as an **Integer program**. ...

Iri.fr

CABOB: A Fast Optimal Algorithm for Winner Determination in Combinatorial Auctions

T Sandholm, S Suri, A Gilpin, D Levine, I ... - View as HTML - Web Search

... following table gives the unique optimal values for each of the decision variables for both the **combinatorial auction** (that is, the **integer program** (IP)) and ...

Management Science, to appear, 2004 - www-2.cs.cmu.edu - www-2.cs.cmu.edu

In this issue ¼

C PRACTICE, T Notes - View as HTML - Web Search

... problem as a mixed **integer program** and develop ... first- price or second-price **auction**

Scholar Results 21 - 30 of about 32 for combinatorial auction integer program "column generation ". (0.0**Algorithms for Piecewise Linear Knapsack Problems with Applications in Electronic Commerce**
S Kameswaran - [View as HTML](#) - [Cited by 1](#) - [Web Search](#)

... intensively studied NP-hard combinatorial optimization problems. ... Y. Narahari: Innovative auction mechanisms for ... Knapsack Problem IP Integer Programming (problem ...

Ph. D. dissertation, Department of Computer Science and ... - [people.csa.iisc.ernet.in](#) - [people.csa.iisc.ernet.in](#)

Adaptive labeling algorithms for the dynamic assignment problem

WB Powell, W Snow, RK Cheung, C Bay, HK Kowloon - [Cited by 10](#) - [Web Search](#)

... to each other and to an optimal solution based on a column- generation technique. ...

First, the problem is an integer program that can contain a large number of ...

Transportation Science, INFORMS Institute for Operations Research and the Management ..., 2000 - extenza-eps.com - [castelab.princeton.edu](#) - [dx.doi.org](#) - [portal.acm.org](#) - [all 7 versions »](#)

Abstracts of Plenary Talks

MAH Dempster, MC Ferris - [View as HTML](#) - [Web Search](#)

... as a large-scale linear program with a ... the branch & price approach to Integer Programming (IP ... algorithms for a variety of combinatorial optimisation problems ...

[apmod.org.uk](#)

Parallel branch, cut, and price for large-scale discrete optimization

TK Ralphs, L Ladanyi, MJ Saltzman - [Cited by 7](#) - [Web Search](#)

... Program., Ser ... as VLSI routing, theorem proving, game theory, combinatorial optimization, and ... particularly important for our study of mixed integer programs (see ...

Mathematical Programming, 2003 - [springerlink.com](#) - [lehigh.edu](#) - [lehigh.edu](#)

MO Opening Session

P Toth, B Lev, L Thomas, M Trick, J Gibb, G Savard - [View as HTML](#) - [Web Search](#)

... over to other problem with combinatorial constraints. ... in a single round sealed-bid combinational auction. ... problem, we constructed an integer linear programming ...
[som.umd.umich.edu](#)

Public transit

G Desaulniers, MD Hickman - [View as HTML](#) - [Library Search](#) - [Web Search](#)

... Also, a non-linear program is formulated for re-optimization of frequencies ... In this procedure, a column generation technique is used to avoid re- evaluating ...

[gerad.ca](#) - [gerad.ca](#)

Transportation on demand

JF Cordeau, G Laporte, JY Potvin, MWP Savelsbergh - [View as HTML](#) - [Library Search](#) - [Web Search](#)

... i. The VRPPDTW can be formulated as the following mixed-integer program: ... a set-partitioning formulation of the problem and an exact column generation algorithm ...

[isye.gatech.edu](#) - [isye.gatech.edu](#)

[PS] The Workshop for Cooperative Control and Optimization

P Pardalos - [View as HTML](#) - [Web Search](#)

... to recombine the results via an auction. ... of intensive computational experiments in combinatorial optimization and ... into a binary integer programming problem ...

[ise.ufl.edu](#)

The Workshop for Cooperative Control and Optimization

JWR Union, P Pardalos - [View as HTML](#) - [Web Search](#)

... the coordinator to recombine the results via an auction. ... computational experiments in combinatorial optimization and ... into a binary integer programming problem ...
ise.ufl.edu

A survey of optimization models for long-haul freight transportation

T Crainic - [View as HTML](#) - Cited by 3 - [Library Search](#) - [Web Search](#)

Page 1. A Survey of Optimization Models for Long-Haul Freight Transportation

Teodor Gabriel Crainic Département des sciences administratives ...

Publication du CRT, 1998 - crt.umontreal.ca - [isye.gatech.edu](#) - [crt.umontreal.ca](#) - [all 4 versions »](#)

◀ Goooogle ▶

Result Page: [Previous](#) [1](#) [2](#) [3](#) [4](#) [Next](#)

[Google Home](#) - [About Google](#)

©2005 Google

Scholar Results 31 - 32 of 32 for combinatorial auction integer program "column generation ". (0.02 sec)

[PS] Heterogenous Scheduling and Rostering

M Aronsson, P Holmberg, P Kreuger, S Lindblom - [View as HTML](#) - [Web Search](#)

... Example: Linear program Maximize $c_1 x_1 + \dots + c_n x_n$ where $a_{11} x_1 + \dots + a_{1n} x_n$
 $b_1 \dots a_m x_1 \dots x_n$ LP (linear progr.) IP (integer progr.) CP (constraint progr ...
it.kth.se - [imit.kth.se](#) - [sics.se](#)

Mathematisches Forschungsinstitut Oberwolfach

RE Bixby, D Simchi-Levi - [View as HTML](#) - [Web Search](#)

... Handbook of Discrete and Combinatorial Mathematics" Rosen ... processes and pricing and
auction models that ... and scope of mixed integer programming applications ...

mfo.de

◀ Gooooogle

Result Page: [Previous](#) 1 [2](#) [3](#) [4](#)

combinatorial auction integer program [Search](#)

[Google Home](#) - [About Google](#)

©2005 Google

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS**
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- FADED TEXT OR DRAWING**
- BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- SKEWED/SLANTED IMAGES**
- COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- GRAY SCALE DOCUMENTS**
- LINES OR MARKS ON ORIGINAL DOCUMENT**
- REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.